



Power Lines and Sage-Grouse

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Montana–Dakota Utilities Co.

- ▶ A division of MDU Resources Group, Inc.
- ▶ Electric and gas distribution, electric transmission and generation
- ▶ Montana–Dakota's customers:

	Total	Electric	Gas	Combination (gas and electric)
All Customers	311,564	179,031	59,286	73,247
Montana Customers	89,511	64,241	9,495	15,775



Montana Dakota Service Area

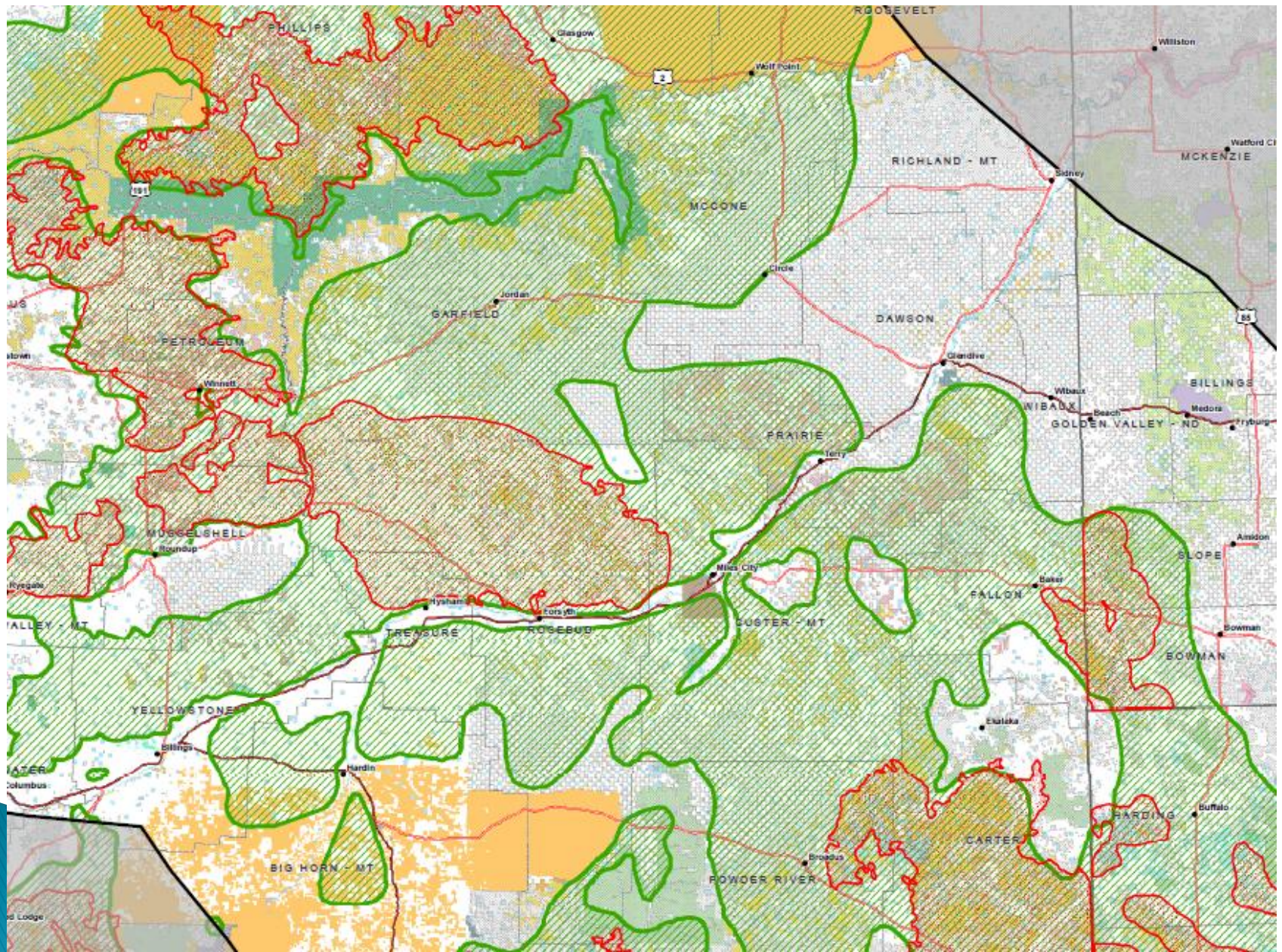


Predominant area where
Montana-Dakota infrastructure
overlaps sage-grouse habitat



BLM Sage-Grouse Habitat Maps

Red hash shows PACs and green hash shows sage-grouse distribution



Montana–Dakota Infrastructure

	Transmission Overhead	Distribution Overhead	Distribution Underground	Gas Distribution Main
Total Company	3,063 miles	2,693 miles	1,500 miles	6,400 miles
Montana	627 miles	818 miles	294 miles	1,634 miles

- ▶ Also have:
 - ▶ Electric substations
 - ▶ Gas town/border stations
 - ▶ Gas service lines
 - ▶ ~ 5 miles of gas transmission in MT
 - ▶ Communication towers
 - ▶ Electric generating facilities
 - ▶ Services centers
 - ▶ No underground electric transmission in MT



Working Together with Agencies

- ▶ Montana–Dakota has been a member of Avian Power Line Interaction Committee (APLIC) since 2012
- ▶ Have worked with agencies to address power line avian mortality concerns
- ▶ Avian Protection Plan (APP)
 - Addresses electrocution and collision mortality concerns
 - Prioritize and conduct reviews of existing distribution line for electrocutions/collisions concerns and apply retrofits
 - Osprey nesting platforms
 - Sage–grouse issues are new to Montana–Dakota and we have been working with APLIC and other utilities to assess impacts and develop best management practices that can be incorporated into our APP



Electrocution Prevention Retrofits

- ▶ Make retrofits where we have had documented electrocution mortality
- ▶ Make retrofits according to findings during line patrols or where mortality patterns emerge
 - Forsyth
 - Wolf Point
 - Miles City



Miles City and Hathaway Osprey



Osprey Nest



Nest Deterrent



Nest Platform

Potential Sage-Grouse Conservation and Power Lines



Conservation Measure Considerations

- ▶ Recommend continuation of current scientific studies such as these to help determine power line impacts and appropriate conservation measures
 - 10 Year Study of 345 kV Falcon to Gondor line in Nevada
 - LeBeau et al. 2012
 - GIS mapping of existing lines and historic lek use studies



Potential Conservation Measures

▶ Siting New Line

- Distance buffers – set distance or case-by-case?
 - Consider available topographical screening of line from leks
- Noise should not be a concern significant concern for lines in place
- Power lines have small permanent footprint of ~10 sqft per pole disturbance



Potential Conservation Measures

- ▶ Siting New Line (cont.)
 - Co-locate with existing infrastructure as feasible
 - le. roads, industry, other power line
 - Outage simulations which show potential North American Energy Reliability Corporation violations could occur would preclude co-location of lines



Potential Conservation Measures

▶ Siting New Line (cont.)

- Marking for collisions
 - Further study recommended to determine if marking reduces mortality impacts
- Underground
 - Transmission line is a minimum of 10 times cost of overhead
 - Increased maintenance costs due to limited access
 - Distribution may be possible depending on terrain/feasibility
 - More habitat disturbance



Potential Conservation Measures

- ▶ Siting New Line (cont.)
 - Perch deterrents to prevent raptor prey use?
 - Most deterrents still allow perching and can increase chances of nest building



Potential Conservation Measures

► Construction

- Construction feasibility should be considered when line is sited
- Construction timing to avoid sensitive use of habitats
 - ie. Lek use and nesting from March 1 to June 15)
- Noise/distance buffer from leks – set distance or case-by case?
- Use sagebrush and native grasses seed mix for reclamation



Potential Conservation Measures

▶ Existing Line

- Recommend no reroutes or underground requirements for existing line
- Perch deterrents to prevent raptor prey use?
- Raptor/raven nest removals?
 - Balance between protections provided for sage-grouse and eagles/migratory birds. Can permit approvals be accelerated to remove eagle or raven nests for sage-grouse protection?



Potential Conservation Measures

- ▶ Ongoing Maintenance and Operation
 - Ground disturbing activity is minimal
 - Avoid permanent damage to sagebrush
 - Schedule to avoid most sensitive habitat use
 - Line rebuilds or maintenance requiring ground disturbance should apply the measures under Construction in consideration of most sensitive habitat use



Potential Conservation Measures

- ▶ Emergency maintenance – no restrictions recommended
 - Usually short duration, minimal disturbance



Thank you for allowing us to participate!

Questions?

